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ABSTRACT

"3-2-1 CONTACT Extras" (Extras) are television specials produced by "3-2-1 CONTACT," a television series on science and technology for 8- to 12-year-olds. The production of each Extra is typically accompanied by an extensive program of formative research, designed to examine issues of comprehension and appeal, that helps guide development. Extras have explored timely topics, but two of the most recent dealt with particularly sensitive subject matter, sex and puberty, and drugs. These topics offered challenges above and beyond those typically presented in the context of production research. How the design of the formative research and the selection of methods in the development and production process met the challenges of each show is detailed. For both specials, qualitative techniques were heavily used to explore these sensitive and potentially provocative topics. For the show on drugs, the context needed to encourage and support openness and frankness so that children would feel comfortable sharing thoughts and experiences with drugs. For the show on sex and puberty, a similar concern required managing the research with clarity and discretion. For these reasons, research included surveys of parents to ensure that their comfort levels were also supported. Eleven tables summarize research development. (SLD)

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Addressing Sensitive Subject Matter With Formative Research:

Sex, Drugs, and Children's Television

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Children's Television Workshop

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Abstract

3-2-1 CONTACT Extras (Extras) are television specials produced by 3-2-1 CONTACT, a television series on science and technology for 8- to 12-year-olds. The production of each Extra is typically accompanied by an extensive program of formative research, designed to examine issues of comprehension and appeal, that helps guide development.

Extras have explored such timely science topics as the rainforest and the garbage crisis. Two of the most recently produced Extras, however, deal with particularly sensitive subject matter: sex and puberty, and drugs. These topics offered challenges above and beyond those typically presented in the context of production research.

This paper details how the design of the formative research and selection of methods used throughout the development and production process met the particular content and production challenges posed by each show. For both of these Extras, we relied heavily on qualitative techniques to explore these sensitive and potentially provocative topics in a deep and rich manner. In the case of the show on drugs, we needed to establish a context for research that would encourage and support openness and frankness so that children would feel comfortable sharing their thoughts, concerns, and experiences with drugs. For the show on sex and puberty, we were similarly concerned with managing the conduct of the research with clarity and discretion to ensure responsible and sensitive treatment of the topic for

the broadest possible audience. Therefore, in addition to an extensive program of formative research with children, we included studies with a wide range of parents, focusing especially on those who might have the greatest difficulty with such issues being addressed on children's educational television. This program of research was used to inform production and help ensure that the final product would not only appeal to children and enhance their understanding, but also support parents' comfort level.

Introduction

3-2-1 CONTACT Extras (Extras) are single-topic television "specials" produced by the Children's Television Workshop (CTW). They focus on timely and important issues of science, often related to environmental themes, but also including genetics, sexuality, and how drugs affect the brain. These Extras were produced under the umbrella of 3-2-1 CONTACT, a television series on science and technology that aired from 1980 to 1989 and consisted of 225 half-hour, magazine-format episodes. 3-2-1 CONTACT targeted 8- to 12-year-olds, particularly minority children and those of low socio-economic status. The Extras were developed within the CTW Model, used for all programming, which is characterized by a three-way collaboration between Production, Content, and Research to ensure an integrated approach, bringing together expertise in these areas.

The program of formative research carried out in support of each Extra utilized qualitative, quantitative, and observational/ethnographic methods. These were combined in specific ways to address the issues that arose in each phase of the development and production process; results from formative research were then used to inform the subsequent stage of a show's development. The design of the formative research and the selection of methods were individualized to meet the particular content and production challenges posed by each show.

CTW produced nine Extras on such timely science topics as the garbage crisis and rainforests. The final two Extras,

however, dealt with particularly sensitive subject matter: puberty and human sexuality, and the brain, drugs, and addiction. These topics offered challenges above and beyond those typically presented in the context of production research. As certain research techniques are suited to specific kinds of materials (see Flagg, 1990; Mielke, 1990; Mielke & Chen, 1983), particular projects often require the use of an arsenal of formative research techniques to produce a final product. In the case of these two Extras, it was necessary to assemble a range of measures for the formative programs of research in order to meet the unique challenges of each show.

Two phases of research that were conducted for these Extras were designed to address challenges that were common to most of the nine productions. Supporting the development for these shows were initial topic exploration groups designed to explore children's familiarity with, interest in, and understanding of the subject selected for the Extra. This research informed our early thinking about each production by providing insights into children's reactions to and comprehension of the subject matter.

Additionally, rough cut tests of produced, but not finalized, footage were conducted with children to support the ongoing development of these, and other, Extras. In this later phase of research, children viewed draft versions of the shows and then participated in interviews designed to assess their appeal and comprehensibility. This research guided revisions to

the form and content of the Extras by identifying areas that could be strengthened.

Because of the sensitive nature of the final two Extras, however, our research needed to address additional, unique issues as well. The Extra on drugs and addiction presented a distinctive set of challenges as it dealt with a social concern that, in recent years, has received a great deal of attention. Unlike current environmental issues, the topic of drug addiction is colored by an immediacy that personalizes the science content and makes the understanding of this material critical to healthy life choices. Therefore, our efforts needed to increase awareness and provide factual information communicated in a way that was easily accessible to children (as in the environmental Extras), but make an impact at a much more personal, immediate level as well.

From the topic test phase of the research, it was clear that children were familiar with the slogan "Just Say No" and aware that drugs could be harmful. However, this research also showed that these children had little knowledge of the specific effects of drugs on the body, how addiction occurs, or the complexity of the brain's function. The challenge, then, was to produce an Extra that provided children with important, useful information about how the brain works to set the context for how drugs affect the body and how addiction occurs without being incomprehensible, pedantic, or preachy.

In order to establish a context for research that would encourage and support openness and frankness, both formal and informal settings were utilized to conduct interviews with children for this Extra. The more formal interviews were conducted in public schools during class time. The more informal groups were conducted in a summer program where participation was voluntary. Children were freer in this setting to give candid responses, sharing concerns about and experiences with drugs they might not have done in a classroom setting. Research and development, from our initial studies to the final production of "Brainstorm: The Truth About Your Brain on Drugs," were completed in just over two years.

The Extra dealing with puberty and human sexuality presented a unique set of issues because the subject is so culturally and personally sensitive. Moreover, the AIDS epidemic has given the topic a sense of immediacy because lives are literally at stake. If not presented responsibly and sensitively, the material in this Extra had the potential to both distress children and trigger adult discomfort. Therefore, in order to produce a show that would communicate key science content and support a level of comfort and acceptance for the broadest possible audience, our research included studies with parents representing a wide range of views on sex education, focusing especially on those who might have the greatest concerns with such issues being addressed on children's educational television, and studies with children between the ages of 8 and 12. While our samples regularly

represent a range of economic status and ethnicity, we felt it important in the case of the show on puberty and sexuality that our samples also represent a range of regional backgrounds. Research and development, from our initial studies to the final production of "What Kids Want to Know About Sex and Growing Up," were completed in just over one year.

This paper describes the challenges that arose at the progressive stages of development and production of these most recent Extras dealing with particularly sensitive subject matter and the specific programs of research assembled to address them.

"Brainstorm: The Truth About Your Brain on Drugs"

The program of formative research designed and conducted in support of the development and production of "Brainstorm: The Truth About Your Brain on Drugs" consisted of three phases and is described in detail below.

Phase I: Topic Explorations

Rationale and research questions. Because each 3-2-1 CONTACT Extra focused upon a single subject, we needed to ensure that the material selected for an in-depth exploration would interest 8- to 12-year-olds, capture their imaginations, and engage them in the process of scientific inquiry. Toward this end, we took the search for exciting and timely science topics to our audience in order to help guide the selection and development of topics. One of the first studies conducted in support of the Extras was designed to meet two objectives: to test the appeal of thirteen topics selected by the Production Team as candidates for upcoming shows, and to explore children's interest in and knowledge about four topics in particular (including "Drugs and Your Body") that CTW was especially interested in developing.

The methodologies selected for Phase I and the specific research questions they were designed to answer are outlined in Table 1 (see Table 1).

Insert Table 1 about here

Sample and methodology. A total of 110 third-, fourth-, and fifth-grade children in four classes from a public elementary school in Queens, New York participated in this research.

In order to explore their interest in each of the thirteen candidate topics, children received appeal rating booklets which presented the topics, one per page, along with brief descriptive paragraphs written by Production. As one researcher read the paragraph to the children, a second walked around the classroom holding up a poster, displaying three photographs, selected by Production to represent the topic. Children were then asked to complete a five-point rating scale at the bottom of the page, placing an "X" on the line that best described what they thought of the topic for a show from 3-2-1 CONTACT (either "Great," "Good," "OK," "Not So Good," or "Terrible"). This procedure was repeated for each of the thirteen topics. These ratings provided us with a quantitative assessment of appeal from a relatively large number of children.

After the children completed their rating booklets in each of the four classrooms, groups of five boys and five girls were randomly selected for single-sex target topic interviews; a total of forty children participated. Each of these small groups was asked a series of questions to assess children's interest in and knowledge about the four topics of particular interest: "The Rainforests," "Kid Inventors and Investigators," "Drugs and Your Body," and "Elephants." This qualitative methodology allowed us to conduct an in-depth exploration of children's reactions to and

interest in the four topics and provided us with a richer understanding of the quantitative data collected.

Implications. Overall, children gave "Drugs and Your Body" a mean appeal rating of 3.80 (between "Good" and "OK"), a possible indication of their familiarity with the topic, if not saturation by it. Yet, in our small-group interviews, most children expressed animated interest in "Drugs and Your Body" as a topic and thought that a show about drugs would help to answer the many questions they had. In our discussions, children wanted to know why drugs are harmful, why people take drugs, and how and why drugs affect the body. In terms of children's familiarity with and understanding of the topic, most were able to report that drugs are dangerous, and all of the children were able to list numerous types of "good" and "bad" drugs, conceptualizing them as belonging to one of these two categories. However, children were unsure of the specific effects of drugs on the body, and how and why drugs work in the body as they do.

This initial exploration of children's familiarity with and understanding of drugs was used to define the focus of the 3-2-1 CONTACT Extra on this topic. From this research, we determined that our show needed to provide children with information on how the brain works in order to set the context for an explanation of how drugs affect the body and how addiction occurs. Our next topic exploration study, therefore, was designed explicitly to listen to children's key questions and concerns about drugs, the brain, and addiction, and to identify the sources of their

confusion. Additionally, we sought to examine children's knowledge of the brain's function, their categorization of drugs, their awareness of how and why people use drugs, their conception of how drugs affect the body, and their definition of "addiction."

Sample and methodology. We interviewed 54 children between the ages of 8 and 12 at a summer program in Brooklyn, New York. This setting allowed us to establish an informal context where participation was voluntary and children were freer to give candid responses, sharing their concerns about and experiences with drugs. Twelve same-sex group interviews were conducted, six with girls and six with boys, each group averaging about five children. This qualitative research provided us with rich information on children's reactions to and understanding of the topic.

Implications. Our findings from these topic exploration groups provided us with directions to pursue as we looked toward the production of a draft version, or rough cut, of the show. In general, the children knew that the brain controls all parts of the body by sending messages, but were not able to explain how this occurs. As in our initial exploration groups, almost all of the children categorized drugs as either "good" and "bad," without making the connection that misdiagnosis or overdose of "good" drugs can lead to addiction as well. Most had only a rudimentary understanding of how drugs affect the body; children's discussions on this subject clearly indicated a lack

of accurate detail. Most children, however, were familiar with the term "addict" and with the names of many drugs, including the street names of illicit ones.

Phase II: Rough Cut Study

Rationale and research questions. When a rough cut of "Brainstorm: The Truth About Your Brain on Drugs" was produced, we designed and conducted a study to assess children's reactions to and understanding of the show. Specifically, because we sought to communicate factual information in an easily accessible way, we needed to explore the appeal and comprehensibility of the show as a whole and of its specific segments. Additionally, we were interested in children's immediate verbal and behavioral reactions to individual segments of the program while viewing as another measure of the show's appeal. Results from this research would be used to inform changes made to the draft version.

The methodologies selected for Phase II and the specific research questions they were designed to answer are outlined in Table 2 (see Table 2).

Insert Table 2 about here

Sample and methodology. A total of 101 third-, fourth-, and fifth-grade children attending a public school in Spring Valley, New York participated in our rough cut research.

Our findings on appeal and comprehension were gathered through a variety of techniques designed to address our particular research questions. In order to establish a baseline of the children's knowledge of particular facts about the brain and drugs and to ascertain any gain as a result of viewing, the children completed comparable pre- and post-viewing quizzes. Comprised of parallel sets of questions, the quizzes were designed to explore children's understanding of the physiology of the brain, facts about drugs, and the consequences of drug use. Results from the quizzes provided us with a quantitative assessment of children's learning from the show. In addition, in order to monitor the children's reactions while watching the program, we made observations of the children as they viewed it, noting their behavioral and verbal responses to each segment. Finally, in each classroom, some children were randomly selected for same-sex small-group comprehension interviews; the remaining children participated in a class comprehension interview. This qualitative research allowed us to get feedback from the largest number of children possible in an effort to assess comprehension of the program as a whole and of its specific segments.

Implications. In general, the results of the pre- and post-quizzes suggested that the program effectively communicated many of its key concepts. The percentage of children responding correctly to questions increased on the post-quiz for all but one question.

Our small-group and class comprehension interviews confirmed that children came away with some understanding of the basic concepts and messages presented in the tape. However, recall of key vocabulary was poor, and many children, especially younger ones, lacked a fuller grasp of the content points. Further, some misconceptions and confusions were noted.

In terms of the show's appeal, the children's comments about the tape were generally positive, though there were quite a few mentions that parts were too long and had too much information and difficult vocabulary. Most said it was an important program for children to watch because it contained valuable information. We observed children's interest and attention to peak at certain points and fall off considerably at others.

In response to these research findings, the Production team executed changes in the program in an effort to support comprehension and enhance appeal. Segments that children found to be boring or too long in the rough cut version were broken down and interspersed throughout the show. Additionally, because children interpreted a talk-over editing technique which bleeds one voice into another as one speaker "interrupting" another, definitive transitions between speakers were effected by fading to a white screen. We found children's attention to be very low during two lengthy interview segments with doctors; in the finished program, one of the interviews was shortened and the other was edited out, though the information presented in the rough cut remains in the final program, explained instead by the

child host. Finally, because we found that children who viewed the rough cut believed that prescription drugs are non-addictive, Production created a chart listing the possible side effects of morphine, including addiction as an example.

Phase III: Final Production Study

Rationale and research questions. Our last study was designed to assess the appeal and comprehensibility of the final full production of "Brainstorm" and of its specific segments. Results from this research would be used to determine if it was necessary to make any final changes to the show.

The methodologies selected for Phase III and the specific research questions they were designed to answer are outlined in Table 3 (see Table 3).

Insert Table 3 about here

Sample and methodology. A total of 168 third-, fourth-, and fifth-grade children attending a public school in Queens, New York participated in this final phase of research. To achieve our research objectives, we used a variety of techniques which included observations of the children as they viewed the tape in order to monitor their verbal and behavioral reactions; administration of appeal questionnaires with a series of five-point scales for children to assess the program as a whole and

its particular segments; and, whole-class discussions and small-group interviews designed to qualitatively explore issues of appeal and comprehension.

Implications. Overall, the final program was even more comprehensible and appealing to children in all three grades than the rough cut. Most children came away with a clear understanding of the main concepts, and, on a five-point scale, where five is equal to "Great" and one is equal to "Terrible," the children gave the show an overall mean rating of 4.66. The children were attentive and seemed interested throughout most of the hour-long program. Their comments about the show were almost exclusively positive. Children said the program was both informative and fun to watch, answering the "hows" and "whys" that are often not tackled by anti-drug campaigns:

"I like this show better than other shows I've seen. They're always telling us not to take drugs 'cause you won't feel good, but this tells you why. It shows you in a simple form. It shows you what it does to your insides."

"It's really cool and educational, but there's fun stuff in there too."

Summary of Research

The methodologies selected for each phase of this program of formative research and the specific research questions they were designed to address are summarized in Table 4 (see Table 4).

Insert Table 4 about here

"What Kids Want to Know About Sex and Growing Up"

The program of formative research designed and conducted in support of the development and production of "What Kids Want to Know About Sex and Growing Up" consisted of six phases and is described in detail below (see Rosen & Sroka, 1992).

Phase I: National Topic Explorations

Rationale and research questions. The first phase of research was designed to explore what children in our target age know, do not know, and think they know about puberty, sex, and human reproduction in order to guide and focus the early development of the program. Specifically, the research set out to examine children's information and beliefs about puberty, conception, pregnancy, birth control, and sex and sexuality, as well as their knowledge of specific vocabulary. We were interested in children's reactions to our discussions, their responses to girls and boys talking to one another about such sensitive material, and their questions about sex, reproduction, and the human body.

The methodology selected for Phase I and the specific research questions it was designed to answer are outlined in Table 5 (see Table 5).

Insert Table 5 about here

Sample and methodology. Because we were interested in obtaining responses from a wide range of children, a total of 258 third-, fourth-, fifth-, and sixth-graders were interviewed in New York, New York; Kansas City, Kansas; and Birmingham; Alabama. In order to maximize comfort with our discussions, children were interviewed in same-sex, same-grade groups. Our earlier consultations with sex educators informed our choice of group size; such experts have found that, when discussing sensitive topics, children tend to feel safer and more comfortable in groups numbering 7 to 12, slightly larger than those assembled for other Extras research. Thirty-one group interviews were conducted; only those children who had returned signed parental permission slips participated.

Because children could potentially disclose highly personal information, or feel embarrassed or vulnerable during our discussions, the interviews with girls were co-conducted by a female researcher and a female sex educator, while those with boys were led by a male researcher and a male sex educator. It was the responsibility of the sex educators to help facilitate these early discussions.

Implications. We found that most children had only a rudimentary understanding of puberty, sexuality, and human reproduction. Their descriptions and discussions of body parts, functions, and processes often lacked accurate detail and were punctuated by misconceptions and confusions. Because children's comprehension of vocabulary was also limited, Production began to

consider treatments and executions which would support understanding of processes and convey proper terminology.

Some children, especially girls, expressed anxiety about growing up and maturing. The need for positive models to show that developing sexually into an adult is a natural and positive process was clear. Production responded to this finding by deciding that particularly sensitive topics in the show would be presented through discussions between children and an adult of the same gender in order to support the comfort level of children viewing the program.

While children had many questions about puberty and sex, many did not know where to go for information. Many children, particularly girls, did not consider sexuality to be a topic they could ever discuss with parents or trusted adults. At the start of the interviews, most children were reticent or embarrassed to talk about puberty and sexuality, yet once rapport was established, they became active participants in our discussions and were clearly eager for accurate information.

Findings from these national topic exploration groups confirmed that our show needed to both communicate a body of scientific information and act as a catalyst for discussion between children and trusted adults. Our next phase of research, therefore, was designed to focus on parents and their role in the education of their children about puberty and sexuality.

Phase II: Test of Concept and Proposed
Treatment With Parents

Rationale and research questions. Phase II of our research was designed to explore parents' orientation to sex education and their responses to the concept of our program. Specifically, the research set out to examine parents' receptivity to the idea of a sex education program on television; their reactions to the show's goals, design, outline, and the types of segments being considered; and, their responses to a proposed elaborated concept for the program, with particular emphasis on identifying the specific issues and topics which would strongly impact their acceptance of the show. Findings from this research would help to inform the development of the Extra and to position the program for maximum acceptance by the broadest possible audience.

The methodology selected for Phase II and the specific research questions it was designed to answer are outlined in Table 6 (see Table 6).

Insert Table 6 about here

Sample and methodology. Because we were interested in responses from a wide range of parents, our research team conducted a total of eight focus group interviews in New York, New York; Charlotte, North Carolina; Kansas City, Kansas; and San Diego, California. The 86 parents who participated were selected

without regard to their television viewing habits. Respondents were sampled to reflect national religious demographics, with a slight over-representation of groups which could be characterized as having conservative attitudes towards sex education. All participants were parents of 8- to 12-year-old children and included a mix of males and females.

Implications. Overall, parents' responses were highly positive. They welcomed the idea of a sex education program as a way to provide factual information and "normalize" the topics of puberty and human reproduction. Parents felt a responsibility to educate their children about sexuality and their bodies, but admitted that they felt somewhat unprepared and uncomfortable in that role.

Parents said that because of the sensitive subject matter contained in the show, they wanted to be involved in and have control over their family's viewing experience. Our research identified some aspects of the program that would help to ease their concerns about its content. Parents said that emphasizing individual maturational differences, stressing the role of parents in educating their children, and validating differences among families in their beliefs and values increased their comfort with and acceptance of the show.

These research results confirmed our decision to target both children and their parents and to take steps to support parents' involvement in the educational process. This had implications for program production, selection of an evening time slot for

airing, and information and outreach efforts directed solely to parents.

Additionally, our research identified specific topics in the show outline which made some parents uncomfortable. Because they were anxious that these issues (including pleasure, masturbation, homosexuality, depiction of erection, and depiction of intercourse) be handled sensitively, our next phase of research was designed to test the presentation of these topics.

Phase III: Segments, Animations, and Songs Tests
With Children and Parents

Rationale and research questions. Phase III of the research was designed to provide a preliminary assessment of the appeal and comprehensibility of selected "question and answer" segments, animations, and songs that were being considered for the Extra. The material selected for this study covered those topics our earlier research indicated might be of a particularly sensitive nature. Our objective in conducting this study was to provide a check of our treatment of these issues by exploring the responses of both children and parents.

The methodologies selected for Phase III and the specific research questions they were designed to answer are outlined in Table 7 (see Table 7).

Insert Table 7 about here

Sample and methodology. We conducted group interviews with a total of 19 parents of pre-teens and forty 8- to 12-year-old children. All interviews were conducted in the greater New York area. Because the relatively smaller parent sample could not reflect the complete religious and geographic diversity of the country, we decided to screen for parents belonging to religious groups which could be characterized as having generally conservative attitudes regarding sex education. Children were from three summer day programs; only those who had returned signed parental permission slips participated.

Both parents and children were shown a videotape of test versions of key segments, animations, and songs and were then probed for their reactions. Before watching the tape, however, parents were presented with the goals of the show, its main content points, a brief description of the treatment, and the working title. The interview groups with parents were concluded with a discussion about possible plans for broadcast scenarios and programming schedules.

Our single-sex groups with children were conducted by a researcher of the same gender. These interviews explored children's responses to and comprehension of the tape as a whole and of its specific segments.

Implications. All the parents were interested in the concept of a program about puberty and human reproduction for 8- to 12-year-old children, and, overall, provided positive feedback on the concept of the show and the test tape.

Ideally, parents wanted the program to mirror their own values and beliefs, but recognized that members of the audience may hold a variety of opinions on some topics. No treatment was perceived by these parents to be provocative or inflammatory; the animations depicting erection and intercourse were described as straightforward and very appropriate. Most parents said they could accept the show even if they disagreed with the presentation of some topics and could use the opportunity to discuss their family's beliefs with their children.

To bolster parents' roles in instilling values and to facilitate parent-child discussions, the draft version of the show was designed to continually stress that parents are the ones who teach values, and different families may hold different beliefs. Additionally, Production responded to some parental concerns by re-editing some voice-overs and editing a lengthy segment.

Overall, the children were interested in the segments and felt they learned something from watching them. However, children found some of the concepts (i.e., masturbation, vaginal discharge) unclear, and their recall of vocabulary was often limited.

To improve children's comprehension of the scientific material being presented, Production responded to these findings by changing some of the vocabulary, providing more graphic support for key terminology, re-working some of the voice-overs, and modifying some of the animation.

Phase IV: Rough Cut Test With Children and Parents

Rationale and research questions. Phase IV of the research was conducted to assess children's and parents' reactions to a draft version of the Extra on puberty and human reproduction. Specifically, we examined parents' and children's receptivity to the program; the viewing dynamic within the family and the extent to which the program fosters dialogue between parents and children; and, parents' and children's reactions to specific characters, segments, and topics in terms of appeal, appropriateness, and comprehension. This information was needed to guide final editing for the broadcast version of the show.

The methodologies selected for Phase IV and the specific research questions they were designed to answer are outlined in Table 8 (see Table 8).

Insert Table 8 about here

Sample and methodology. Sixteen focus group interviews were conducted with parents and children from 95 households (one parent and one 8- to 12-year-old child from each). In order to represent a variety of geographic regions, interviews were conducted in Birmingham, Alabama; Fort Smith, Arkansas; Des Moines, Iowa; and New York, New York. In each site, two groups were conducted with the children (one with boys, one with girls), and two groups were conducted with their parents. Children were

interviewed in single-sex groups by a researcher of the same gender. Follow-up telephone interviews were conducted with parents who were unable to attend their focus group discussions.

The focus groups were designed in order to meet the research objective of hearing from the conservative voice. Therefore, there was an intentional over-representation of religious groups most likely to have more conservative views toward sex education.

To assess the viewing dynamic, parents and children were asked to view the videotaped rough cut of the entire show at home. Parents were free to preview the program (with spouse and/or other adult family members) and to decide whether they and their children would watch it together, separately, or their children would not watch it at all.

Parents completed a questionnaire prior to watching the show, assessing what topics related to puberty, sex, and reproduction they had discussed with their 8- to 12-year-old children and what reference materials on this subject they had used. After watching the tape, but before the focus group discussions, parents and other adults viewers completed questionnaires assessing their reactions to the program. Questionnaires contained both open-ended questions as well as a series of five-point scales. At the beginning of the focus group discussions, children completed a questionnaire which asked about co-viewing and contained a series of five-point scales to quantitatively assess the appeal of the show.

Implications. The great majority of parents and children were "thrilled" that the program was being produced and greatly appreciated it for "breaking the ice" and legitimizing discussion of puberty and sexuality.

Eighty-five of the 95 parents (90%) who viewed the program found it valuable and appropriate for their children. Of the ten parents who chose not to have their children view the show, most did not object to the program itself, but rather said that their children were not developmentally ready for the material, and they might consider having them view it when they were older.

One of our key findings was the distinction between parents' "squeamishness" and disapproval. Parents generally reported that there are some topics which they felt they should teach their children about, but which they themselves do not feel as comfortable discussing as they would like. Moreover, parents told us that even if these topics make them uncomfortable, they want them included in the program. Even the most conservative parents typically said they could accept the show's mention of subjects that made them uncomfortable (such as masturbation or homosexuality) and would use the opportunity to discuss their family's values and beliefs with their children.

We found that a crucial factor in parents' acceptance of the program was "being in control" of their family's viewing by knowing what the show would contain and being able to watch and critique it with their children. Parents said that previewing the show would be ideal. If this were not possible, they wanted

advance publicity to tell them when the show would be airing and a parent's guide informing them of the program's content. In response to this finding, Phase VI of our research was designed to inform the development of a parent's guide, and promotion and public information strategies were generated in order to prepare parents for the show.

Children's comprehension of the material depended in part upon their developmental readiness to engage the material. Some topics were highly meaningful and valued by older (or more developmentally advanced) children, but less interesting to children who had not yet experienced the feelings or physical changes being discussed. Children particularly appreciated the continual reassurance that maturation is a normal process, individual differences are "normal," and sexuality is a legitimate topic for discussion with parents or other trusted adults.

Additionally, we found that children's comprehension of vocabulary could be improved. In response to this finding, Production created a mid-show recap of key terms, made use of more familiar vocabulary, increased the use of print on screen, and made further editing refinements to support children's understanding. Because the term "masturbation" was unclear to many children, our next phase of research was designed to explore how best to support children's comprehension of the term and parents' comfort level with the segment in which it is discussed.

Phase V: "Masturbation" Definition Test
With Children and Parents

Rationale and research questions. We designed and conducted two studies, one with children and one with parents, in order to help guide refinement of the segment discussing masturbation and to select the definition for the word which would best support children's comprehension and parents' comfort level. In each of these studies, two versions of a definition of "masturbation" being considered for the program were tested.

The methodologies selected for Phase V and the specific research questions they were designed to answer are outlined in Table 9 (see Table 9).

Insert Table 9 about here

Sample and methodology. A total of 54 public school children in New York, New York ranging from 8- to 12-years-old participated in same-sex group interviews. Interviews with girls were conducted by a female researcher; interviews with boys were conducted by a male researcher. Only those children who had returned signed parental permission slips participated.

To introduce the topics of puberty and human reproduction and put our discussion into context, children watched the first 21 minutes of the rough cut of the program, leading up to, but not including, a definition of "masturbation." In our group

discussions which followed, children's own definitions of "masturbation" were explored, and they were then read one of the two definitions being considered for the program in order to test the comprehensibility of each. Order of presentation was counter-balanced across groups.

Thirty-five parents of 8- to 12-year-olds who had participated in our earlier rough cut research were re-interviewed by telephone. We intentionally over-sampled those religious groups most likely to have more conservative attitudes toward sex education in order to be sure the conservative voice was heard. Each parent heard and discussed the two definitions of "masturbation" being considered for the program. Order of presentation was counter-balanced.

Implications. The definition selected for use in the program used terminology familiar to children (e.g., "private parts") before using formal terminology (e.g., "genitals"). This definition best aided children's comprehension and was considered appropriate by parents.

Phase VI: Parent's Guide Research

Rationale and research questions. One of the key findings to emerge from our prior research was parents' desire to "be in control" of their family's experience of the show and their wish to know the program's content in advance. In response to this finding, CTW considered the production and distribution of a parent's guide as a viable alternative to "preview airing" of the

program (which was not feasible at the national level). The guide was intended to give parents an idea of what the television program would be like by describing it in detail (serving a preview function) and to help them open and continue discussions with their children (serving a review function). Our Phase VI research was conducted to determine parents' reactions to an initial draft of the Parent's Guide.

The methodologies selected for Phase VI and the specific research questions they were designed to answer are outlined in Table 10 (see Table 10).

Insert Table 10 about here

Sample and methodology. Four focus groups were conducted in the New York area with 42 parents representing a mix of ethnic backgrounds, education, income, and urban and suburban communities. As in earlier research, the sample was selected to represent a range of religious views, with intentional oversampling of groups characterized as having a more conservative perspective on sex education.

A draft of the guide, accompanied by a brief questionnaire, was sent to the respondents five days prior to the focus groups. The purpose of the questionnaire was to get parents' initial reactions to the guide, including overall ratings of the guide and interest in viewing the program. Parents participated in a.

discussion of the guide at the start of each focus group (before viewing the program) and were interviewed again after seeing the show. During the focus group, respondents were also asked to rate the appeal of three rough cut promotional segments, two targeting the program and one targeting the guide.

Implications. Overall reaction to the guide was enthusiastic. Parents perceived the guide as valuable in helping them open or continue discussion with their children. They especially appreciated that the guide was straightforward in tone, factual, and value-free. Yet, some parents felt the guide failed to do the program justice in terms of giving them an idea of what the show would be like. They said inclusion of more detail, such as sample quotes from the show, would better convey how sensitively the program addressed potentially inflammatory topics.

In response to these findings, the guide was revised in line with parents' recommendations. It was produced in both English and Spanish and distributed to parents who wrote or called in to receive it. Promotion and public information efforts were launched, including a national teleconference in advance of the show. All promotion efforts were designed for and directed solely to parents.

Summary of Research

The methodologies selected for each phase of this program of formative research and the specific research questions they were designed to address are summarized in Table 11 (see Table 11).

Insert Table 11 about here

Conclusion

The strength of formative research lies in its ability to address a broad range of questions through a variety of methods. This arsenal of techniques can be particularly effective in meeting the challenges of dealing with sensitive subject matter; the richness of the data obtained highlights and confirms the responsiveness of formative research. Both "Brainstorm: The Truth About Your Brain on Drugs" and "What Kids Want to Know About Sex and Growing Up" are powerful evidence that collaboration between Production, Content, and Research from concept development through execution can result in materials that meet the needs of their intended audience -- programs that are not only appealing to children, capturing their attention and holding their interest, but ones that are educationally valuable, responsibly communicating content while supporting the comfort levels of children and families.

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Table 1

Phase I Research for "Brainstorm: The Truth About Your Brain on Drugs"

STUDY/POPULATION	RESEARCH QUESTIONS	METHODOLOGY
<i>Topic Explorations</i> 110 children Queens public school	Test children's interest in 13 candidate topics under consideration for use. Explore interest in and knowledge about four of these topics targeted by Production for the next Extra.	Topic appeal rating booklets (including description/photos/ratings). Small-group interviews on four target topics, focusing on appeal, familiarity, and understanding.
54 children Brooklyn summer program	Assess children's familiarity with and understanding of the brain, drugs, and addiction.	Small-group interviews.

Table 2

Phase II Research for "Brainstorm: The Truth About Your Brain on Drugs"

STUDY/POPULATION	RESEARCH QUESTIONS	METHODOLOGY
<i>Rough Cut Study</i> 101 children Spring Valley public school	Assess the appeal and comprehensibility of a rough cut of "Brainstorm."	Comparable pre- and post-viewing quizzes. Observations of the children as they viewed the program. Class and small-group comprehension interviews.

Table 3

Phase III Research for "Brainstorm: The Truth About Your Brain on Drugs"

STUDY/POPULATION	RESEARCH QUESTIONS	METHODOLOGY
<i>Final Production Study</i> 168 children Queens public school	Assess the appeal and comprehensibility of the final production of "Brainstorm."	Observations of the children as they viewed the program. Appeal rating booklets. Class and small-group appeal and comprehension interviews.

Table 4

Three Phase Program of Research for "Brainstorm: The Truth About Your Brain on Drugs"

	STUDY/POPULATION	RESEARCH QUESTIONS	METHODOLOGY
PHASE I	<i>Topic Explorations</i> 110 children Queens public school	Test children's interest in 13 candidate topics under consideration for use. Explore interest in and knowledge about four of these topics targeted by Production for the next Extra.	Topic appeal rating booklets (including description/photos/ratings). Small-group interviews on four target topics, focusing on appeal, familiarity, and understanding.
	54 children Brooklyn summer program	Assess children's familiarity with and understanding of the brain, drugs, and addiction.	Small-group interviews.
PHASE II	<i>Rough Cut Study</i> 101 children Spring Valley public school	Assess the appeal and comprehensibility of a rough cut of "Brainstorm."	Comparable pre- and post-viewing quizzes. Observations of the children as they viewed the program. Class and small-group comprehension interviews.
PHASE III	<i>Final Production Study</i> 168 children Queens public school	Assess the appeal and comprehensibility of the final production of "Brainstorm."	Observations of the children as they viewed the program. Appeal rating booklets. Class and small-group appeal and comprehension interviews.

Table 5

Phase I Research for "What Kids Want to Know About Sex and Growing Up"

STUDY/POPULATION	RESEARCH QUESTIONS	METHODOLOGY
<i>National Topic Explorations</i> 258 children New York, NY; Kansas City, KS; Birmingham, AL	Assess children's information and beliefs about puberty, sex, and human reproduction. Examine children's reactions to discussions of these topics and listen to their questions.	Single-sex, same-age interview groups co-conducted by a researcher and sex educator.

Table 6

Phase II Research for "What Kids Want to Know About Sex and Growing Up"

STUDY/POPULATION	RESEARCH QUESTIONS	METHODOLOGY
<i>Test of Concept and Proposed Treatment</i> 86 parents New York, NY; Charlotte, NC; Kansas City, KS; San Diego, CA	Explore parents' orientation to sex education and their responses and receptivity to the concept of this program.	Focus group interviews.

Table 7

Phase III Research for "What Kids Want to Know About Sex and Growing Up"

STUDY/POPULATION	RESEARCH QUESTIONS	METHODOLOGY
<i>Segments, Animations, and Songs Tests</i> 19 parents; 40 children New York metropolitan area	Assess the appeal and comprehensibility of selected segments, animations, and songs under consideration. Check treatment of sensitive issues in this material.	Focus group interviews with parents. Single-sex interview groups with children.

Table 8

Phase IV Research for "What Kids Want to Know About Sex and Growing Up"

STUDY/POPULATION	RESEARCH QUESTIONS	METHODOLOGY
<i>Rough Cut Test</i> 95 households: parents and children Birmingham, AL; Fort Smith, AR; Des Moines, IA; New York, NY	Assess parents' and children's reactions and receptivity to a draft version of the program to guide final editing. Examine family viewing dynamic. Explore issues of appeal, appropriateness, and comprehension.	Pre-viewing questionnaire for parents. Post-viewing questionnaire for parents and other adult viewers. Focus group interviews with parents. Follow-up telephone interviews with parents unable to attend focus groups. Post-viewing questionnaire for children. Single-sex interview groups with children.

Table 9

Phase V Research for "What Kids Want to Know About Sex and Growing Up"

STUDY/POPULATION	RESEARCH QUESTIONS	METHODOLOGY
<i>"Masturbation" Definition Test</i> 54 children (New York, NY) 35 parents (Phase IV cities)	Examine children's comprehension of and parents' comfort level with two versions of a definition being considered.	Single-sex interview groups with children after viewing the first 21 minutes of the rough cut. Telephone interviews with parents.

Table 10

Phase VI Research for "What Kids Want to Know About Sex and Growing Up"

STUDY/POPULATION	RESEARCH QUESTIONS	METHODOLOGY
<i>Parent's Guide Research</i> 42 parents New York metropolitan area	Determine parents' reactions to an initial draft of the Parent's Guide.	Pre-focus group questionnaire assessing initial reactions to the guide. Focus group discussions before and after viewing the show.

Table 11

Six Phase Program of Research for "What Kids Want to Know About Sex and Growing Up"

	STUDY/POPULATION	RESEARCH QUESTIONS	METHODOLOGY
PHASE I	<i>National Topic Explorations</i> 258 children New York, NY; Kansas City, KS; Birmingham, AL	Assess children's information and beliefs about puberty, sex, and human reproduction. Examine children's reactions to discussions of these topics and listen to their questions.	Single-sex, same-age interview groups co-conducted by a researcher and sex educator.
PHASE II	<i>Test of Concept and Proposed Treatment</i> 86 parents New York, NY; Charlotte, NC; Kansas City, KS; San Diego, CA	Explore parents' orientation to sex education and their responses and receptivity to the concept of this program.	Focus group interviews.
PHASE III	<i>Segments, Animations, and Songs Tests</i> 19 parents; 40 children New York metropolitan area	Assess the appeal and comprehensibility of selected segments, animations, and songs under consideration. Check treatment of sensitive issues in this material.	Focus group interviews with parents. Single-sex interview groups with children.
PHASE IV	<i>Rough Cut Test</i> 95 households: parents and children Birmingham, AL; Fort Smith, AR; Des Moines, IA; New York, NY	Assess parents' and children's reactions and receptivity to a draft version of the program to guide final editing. Examine family viewing dynamic. Explore issues of appeal, appropriateness, and comprehension.	Pre-viewing questionnaire for parents. Post-viewing questionnaire for parents and other adult viewers. Focus group interviews with parents. Follow-up telephone interviews with parents unable to attend focus groups. Post-viewing questionnaire for children. Single-sex interview groups with children.
PHASE V	<i>"Masturbation" Definition Test</i> 54 children (New York, NY) 35 parents (Phase IV cities)	Examine children's comprehension of and parents' comfort level with two versions of a definition being considered.	Single-sex interview groups with children after viewing the first 21 minutes of the rough cut. Telephone interviews with parents.
PHASE VI	<i>Parent's Guide Research</i> 42 parents New York metropolitan area	Determine parents' reactions to an initial draft of the Parent's Guide.	Pre-focus group questionnaire assessing initial reactions to the guide. Focus group discussions before and after viewing the show.